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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,097	09/05/2003	Bhushan Khaladkar	OI7035732001	9920

55498 7590 11/13/2008

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EXAMINER	
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ART UNIT	PAPER NUMBER
2178	

MAIL DATE	DELIVERY MODE
11/13/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/656,097	KHALADKAR ET AL.	
	Examiner	Art Unit	
	WILSON TSUI	2178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 August 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-62* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-62* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This final action is based on the amendment filed on: 08/14/08.

2. Claims 1, 11, 18, 30, 31, 32, 33, 34, and 35 are amended. Claims 1, 11, 18, 30, 31, 32, 33, 34, and 35 are independent claims. Thus, claims 1-62 are pending.

3. The following rejections are withdrawn, in view of new grounds of rejections necessitated by applicant's amendments:

- Claims 18, 19, 20, 23, 24, 29, 34-36, 47, 48, and 50-54 rejected under 35 U.S.C. 103(a) as being unpatentable over Marcy, in view Upton, IV.
- Claims 1, 2, 3, 4, 8, 10, 11, 12, 14, 21, 30, 31-33, 37, 38, 40, 42, 43, 45, 56, 60 rejected under 35 U.S.C. 103(a) as being unpatentable over Marcy in view of Dreyband et al and Upton, IV.
- Claims 15-17, 57, 58, 61, and 62 rejected under 35 U.S.C. 103(a) as being unpatentable over Marcy, Upton, IV, and Dreyband et al in view of Wan.
- Claims 25, 26, 27, and 28 rejected under 35 U.S.C. 103(a) as being unpatentable over Marcy, Upton, IV, in view of Wan.
- Claims 5, 6, 7, 9, 13, 39, 41, 44, 46, 55, and 59 rejected under 35 U.S.C. 103(a) as being unpatentable over Marcy, Upton, IV, and Dreyband et al in view of JAXB.
- Claims 22, 49, and 53 rejected under 35 U.S.C. 103(a) as being unpatentable over Marcy, Upton, IV, in view of JAXB.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 18, 19, 20, 23, 24, 29, 34-36, 47, 48, and 50-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marcy (US Patent: 6,662,342 B1, published: Dec. 9, 2003, filed: Dec. 13, 1999), in view Upton, IV (US Patent: 6,742,054 B1, issued: May 25, 2004, filed: Apr. 7, 2000), and further in view of Bornstein ("Pull Parsing in C# and Java", Published: May 22, 2002, pages 1-9).

With regards to claim 18, Marcy teaches a method comprising:

- *Receiving the schema for the data that is based on the mark-up language* (column 4, lines 40-54: whereas, a XML parser receives a schema of XML data (DTD) for processing)
- *Storing the data in a database* (column 4, lines 1-29: whereas, XML data is stored in a document. The document is stored in computer memory/data-store/database)
- *Identifying a child node that is to be accessed within the data*: An application program is used to access content in an instance of XML data (column 6, lines 23-32: whereas, "the application program can obtain information and content on any part of the document"). Furthermore, it is inherent that the application

program identifies a child node to be accessed within the data since the application access any part of the document, which includes child nodes of elements (column 5, lines 57-59).

- *Reviewing the schema to determine one or more access parameters relating to the child node:* A schema of XML data (DTD) is reviewed, and handles are created (column 4, lines 40-55:). These handles are used to reference nodes for each element and/or attribute for direct access, since metadata for each node includes memory location information (column 6, lines 2-11). Furthermore, additional access parameters are generated from the schema, including hierarchical relationship access information as explained in column 9, lines 21-24. As shown in Fig. 5, hierarchical information includes the relationship of a *child node*/element *relative to a parent node*/element (such as the 'Price' element', with respect to the 'Item' element).
- *Using the one or more access parameters to directly access the child node without requiring progressive traversal of child nodes* (column 6, lines 23-32: whereas, an application program uses location information for a specified node (such as a child node), to directly reference the corresponding data in an XML instance).

However, although Marcy teaches access parameters being determined; Marcy does not expressly teach *wherein one or more elements in the XML data are designated as not eligible for the named access procedure,* and determining one or

more access parameters for the child node relative to the parent node *in accordance with the schema*.

Upton, IV teaches *determining one or more access parameters for the instance of the child node relative to the parent node (*stored in an array*/column) in accordance with the schema* (column 28, lines 5-20: whereas, an 'city' schema node/element is relative to an 'address' schema node (node data being stored in an array/*column*). Additionally, offset access parameters are used of the city relative to the address node/element, to access the 'city' data).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Marcy's *one or more access parameters* (which are used to *directly access an instance of node data without progressive traversal of a hierarchy of elements defined in a schema* as explained above), such that the access parameters for an instance of a child node are relative to a parent node (node data being stored in an array/column) in accordance with the schema, as taught by Upton, IV. The combination of Marcy and Upton, IV would have allowed Marcy to have "referred to a field in a schema" (Upton, IV, column 2, line 55).

However, the combination of Marcy and Upton, IV do not expressly teach *wherein one or more elements in the XML data are designated as not eligible for the named access procedure*.

Yet, Bornstein teaches selectively parsing element data such that *one or more elements in the XML data are designated as not eligible for named access* (page 8: whereas one

or more XML elements are designated as not eligible/not-interesting for parsing, and are skipped over).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Marcy and Upton, IV's XML access method, such that particular XML elements are not parsed, as taught by Bornstein. The combination would have allowed Marcy to have enhanced the performance of an XML parser by skipping over uninteresting elements (Bornstein, page 8).

With regards to claim 19, Marcy teaches a method *in which the mark-up language is based on XML* (column 4, lines 40-54: whereas, XML markup language used).

With regards to claim 20, Marcy teaches a method *in which at least one access parameters is based on offset position* (column 6, lines 60-65: whereas, memory offset locations are used as access parameters).

With regards to claim 23, which depends on 18, Marcy teaches a method in which *the child node is not directly accessed if the node is not defined in the schema* (Fig. 3, column 5, lines 1-36: whereas, all elements, including child nodes that are not defined in the schema do not get referenced with an access handle. Since the user application (reference 6) does not receive the handle, the child node cannot be referenced/directly accessed).

With regards to claim 24, which depends on claim 18, Marcy teaches a method comprising *directly accessing a child node in which the method is performed* (in claim 18, and is rejected under the same rationale). Furthermore, Marcy teaches implementing the method using Java (column 8, lines 11-17), and thus it is inherent that a method implemented in Java will *support the system's native datatypes* using the system's Java Virtual Machine.

With regards to claim 29, which depends on claim 18, Marcy teaches a method *in which other child nodes not presently needed are not loaded into memory* (column 7, lines 10-20: whereas, the child node data/values are not loaded into memory, since the application program references a memory location in XML instance.)

With regards to claim 34, for a system performing a method similar to claim 18, and is rejected under the same rationale.

With regards to claim 35, for a computer program product comprising a computer usable medium having executable code, performing a method similar to claim 18, and is rejected under the same rationale.

With regards to claim 36, which depends on claim 18, Meyers teaches *direct access is performed to a location in an XML document for the child node* (column 7, lines 9-30: whereas, various parsers are used to implement a direct access procedure

using a location in an XML document for elements. Furthermore, the elements include child nodes, as shown in Figure 5.)

With regards to claim 47, which depends on claim 34, for a system performing a method that is similar to the method of claim 18, is rejected under the same rationale.

With regards to claim 48, which depends on claim 34, for a system performing a method that is similar to the method of claim 20, is rejected under the same rationale.

With regards to claim 50, which depends on claim 34, for a system performing a method that is similar to the method of claim 24, is rejected under the same rationale.

With regards to claim 51, which depends on claim 35, for a computer program product performing a method that is similar to the method of claim 18, is rejected under the same rationale.

With regards to claim 52, which depends on claim 35, for a computer program product performing a method that is similar to the method of claim 20, is rejected under the same rationale.

With regards to claim 54, which depends on claim 35, for a computer program product performing a method that is similar to the method of claim 24, is rejected under the same rationale.

5. Claims 1, 2, 3, 4, 8, 10, 11, 12, 14, 21, 30, 31-33, 37, 38, 40, 42, 43, 45, 56, 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marcy (US Patent: 6,662,342 B1, published: Dec. 9, 2003, filed: Dec. 13, 1999) in view Upton, IV (US Patent: 6,742,054 B1, issued: May 25, 2004, filed: Apr. 7, 2000) in further view of Dreyband et al (US Patent Application: US 2001/0029604 A1, published: Oct. 11, 2001, filed: Apr. 27, 2001), in further view of Bornstein ("Pull Parsing in C# and Java", Published: May 22, 2002, pages 1-9).

With regards to claim 1, Marcy teaches a method comprising:

- *Storing the XML data in a database* (column 4, lines 1-29: whereas, XML data is stored in a document. The document is stored in computer memory/data-store/database).
- *Receiving a schema for the XML data*, as similarly explained in the rejection for claim 18, and is rejected under the same rationale.
- Using an access procedure for *providing direct access to the element within an instance of the XML data, with at least one access parameter that is determined for the element relative to a second element,* as similarly explained in the rejection for claim 18, and is rejected under the same rationale.

However, Marcy does not expressly teach *wherein one or more elements in the XML data are designated as not eligible for the named access procedure, and* at least one access parameter that is determined for the element relative to a second element *in accordance with the schema, implementing a named access procedure, determining at least one access parameter to have direct access to an instance of the element in the XML data stored in the column of the database, and creating the named access procedure and associating the named access procedure with the element when the element is appropriate for association*.

Upton, IV teaches *determining one or more access parameters for the instance of the child node relative to the parent node (*stored in an array*/column) in accordance with the schema* (column 28, lines 5-20: whereas, an 'city' schema node/element is relative to an 'address' schema node (node data being stored in an array/*column*). Additionally, offset access parameters are used of the city relative to the address node/element, to access the 'city' data).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Marcy's *one or more access parameters* (which are used to *directly access an instance of node data without progressive traversal of a hierarchy of elements defined in a schema* as explained above), such that the access parameters for an instance of a child node are relative to a parent node (node data being stored in an array/column) in accordance with the schema, as taught by Upton, IV. The combination of Marcy and Upton, IV would have allowed Marcy to have "referred to a field in a schema" (Upton, IV, column 2, line 55).

However, the combination of Marcy and Upton, IV do not expressly teach *wherein one or more elements in the XML data are designated as not eligible for the named access procedure, implementing a named access procedure, determining at least one access parameter and creating the named access procedure and associating the named access procedure with the element when the element is appropriate for association*.

Dreyband et al teaches a system comprising:

- *Identifying an element within the schema to associate with a named access procedure* (Figure 3, paragraph 0029: whereas, elements defined in the xml file are identified, such as the element used in Dreyband's example xml file labeled: "name")
- *Determining if the element identified is appropriate for association with a named access procedure* (paragraph 0028: whereas, a check is performed to make sure that the xml document being used is "schema valid", thus inherently, the element defined in the xml document has been identified to be appropriate also).
- *Creating the named access procedure and associating the named access procedure with the element when the element is appropriate for association* (Figure 3, paragraph 0029: whereas, using the schema, an element is associated with a named access procedure by creating a java class named: "person", and having a named access procedure/attribute labeled "getName" (getName is associated with the child element labeled "name" in the provided schema shown in Figure2). Additionally, it is pointed out that Dreyband's named access procedure inherently teaches the use of access parameters as indicated in

paragraph 0029: " getName return(s) data located in the name element". Thus, access parameter information must have been known/used to know where to located the data for the particular name element).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Marcy and Upton, IV's access procedure (which includes using access parameters) for directly accessing an instance of XML data to further include the implementation of a named access procedure system which also uses access parameter information, as taught by Dreyband et al. The combination of Marcy, Upton, IV, and Dreyband et al would have allowed Marcy's system to be able to access XML data through a defined named access approach using a schema as a standard for association, and to have included "the capability of mapping entire schema into the object oriented language" (Dreyband et al, paragraph 0011).

However, the combination Marcy, Upton, IV, and Dreyband et al do not expressly teach *wherein one or more elements in the XML data are designated as not eligible for the named access procedure*.

Yet, Bornstein teaches selectively parsing element data such that *one or more elements in the XML data are designated as not eligible for named access* (page 8: whereas one or more XML elements are designated as not eligible/not-interesting for parsing, and are skipped over).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Marcy's XML access method, such that particular XML elements are not parsed, as taught by Bornstein. The combination would have allowed

Marcy to have enhanced the performance of an XML parser by skipping over uninteresting elements (Bornstein, page 8).

With regards to claim 2, which depends on claim 1, for a method performing a similar method to claim 12, is rejected under the same rationale.

With regards to claim 3, which depends on claim 2, Marcy teaches a method comprising *access parameters includes offset information for each element*: Each element (for which the elements include child nodes, as shown in Figure 5) in a XML document (Figure 1) is assigned a memory offset location to be sent to an application for use as access parameters (column 6, lines 60-65).

With regards to claim 4, which depends on claim 1, Marcy does not teach a method which *the named access procedure is a procedure to get a value for the element or to set a value for the element.*

However, Dreyband et al teaches a method *in which a named access procedure is defined to get a value for the child node or to set a value for the child node* (Figure 2 and 3: whereas, child elements disclosed in a schema shown in Figure 2 (such as child node 'Name'), have corresponding get and set functions shown in Figure 3 (such as 'getName' and 'setName')).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified the access procedure used by Marcy's application program

to use a named access procedure to get and/or set a child node value as taught by Dreyband et al. The combination of Marcy, Upton, IV, and Dreyband et al would have allowed Marcy to have implemented a mapping of a XML schema into Java with "bean style" mutator and accessor methods (paragraph 0029).

With regards to claim 8, which is dependent on claim 1, Marcy does not teach *an element is not appropriate for association if it is a node not defined in the schema*.

However, Dreyband et al teaches *an element is not appropriate for association if it is a node that is not defined in the schema* (paragraph 0044: whereas, Dreyband et al's system checks if the user xml document is schema valid). Dreyband et al's system only makes the association if the user's document is schema valid (paragraph 0029: whereas, a mapping happens when the user's document is schema valid).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Marcy's system to further include associating elements with named access procedures only on the basis of a valid schema as taught by Dreyband et al. The combination of Marcy, Upton, IV, and Dreyband et al would have allowed Marcy's system to have been able to incorporate an error checking procedure when performing an association.

With regards to claim 10, which is dependent on claim 1, Marcy does not teach *the named access procedure is implemented as a bean accessor type.*

However, Dreyband et al teaches *the named access procedure* (in claim 1, and is rejected under the same rationale), *is implemented as a bean accessor type* (Figure 2 and 3: whereas, child elements disclosed in a schema shown in Figure 2 (such as child node 'Name'), have corresponding get and set functions shown in Figure 3 (such as 'setName')).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Marcy's system to include the named access procedure with a bean accessor type as taught by Dreyband et al. The combination of Marcy, Upton, IV, and Dreyband et al would have allowed Marcy's system to directly access an XML instance using a common accessor interface.

With regards to claim 11, Marcy teaches a method comprising:

- *Storing XML data in the database* (column 4, lines 1-29: whereas, XML data is stored in a document. The document is stored in computer memory/data-store/database)
- *Identifying an element within an instance of the XML data to access* (column 6, lines 23-33: whereas, an application program issues a request to access an element within an instance of XML data).
- *Determining if the element has been associated with an* access procedure *corresponding to the element,* an access procedure *providing direct access to the element within the XML data with at least one access parameter that is determined for the element relative to a second element, and if the element has*

been associated with an access procedure, then using an access procedure *to access the element in the instance of the XML data* (column 6, lines 23-33: whereas, the application program makes the determination to access an element by using an access procedure that includes referencing a memory location associated with the element for direct access.

- *If the element has not been associated with the named access procedure, then using a DOM API to access the element in the instance of the XML data* (column 2, lines 1-22: whereas, a DOM API is used to access element data through a search procedure)

However, Marcy does not teach *… wherein one or more elements in the XML data are designated as not eligible for the named access procedure,* implementing a *named access procedure that is associated with an element,* Determining at least one access parameter for the element relative to a second element *in accordance with a schema;* and a named access procedure to have direct access to *an instance of the child node in the data stored in a column of the database*.

Yet, Marcy and Upton, IV teach, determining at least one access parameter for the element relative to a second element *in accordance with a schema;* and a named access procedure to have direct access to *an instance of the child node in the data stored in a column of the database* (as similarly explained in the rejection for claim 18 above, and is rejected under similar rationale).

However, Marcy and Upton, IV do not expressly teach a *named access procedure that is associated with an element*, and *wherein one or more elements in the XML data are designated as not eligible of the named access procedure.*

Dreyband et al teaches a method for *implementing named access procedure that is associated with an element* (to access the element in the instance of XML data), as similarly explained in claim 1, and is rejected under the same rationale.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Marcy and Upton's access procedure (which are used to *directly access an element without progressive traversal of a hierarchy of elements defined in a schema* as explained above), such that the *access parameters* use the named access procedure approach taught by Dreyband et al. The combination of Marcy, Upton, IV, and Dreyband et al, would have allowed Marcy's system to have "mapped the entire schema into the object oriented language" (paragraph 0011).

However, Marcy, Upton, IV, and Dreyband et al do not expressly teach *wherein one or more elements in the XML data are designated as not eligible of the named access procedure.*

Yet, Bornstein teaches selectively parsing element data such that *one or more elements in the XML data are designated as not eligible for named access* (page 8: whereas one or more XML elements are designated as not eligible/not-interesting for parsing, and are skipped over).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Marcy, Upton, IV, and Dreyband et al's XML access method,

such that particular XML elements are not parsed, as taught by Bornstein. The combination would have allowed Marcy to have enhanced the performance of an XML parser by skipping over uninteresting elements (Bornstein, page 8).

With regards to claim 12, which depends on claim 11, Marcy teaches *a schema for XML data is known apriori* (column 4, lines 40-54: whereas, a XML parser receives a schema of XML data (DTD) for processing. However, Marcy does not explicitly teach *the named access procedure is based upon analysis of the schema*.
Dreyband et al teaches a method *the named access procedure is based upon analysis of the schema* (Dreyband et al, paragraph 0029: whereas, a named access procedure/method is defined based on a valid schema, and the respective element defined in it).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Marcy's method for schema analysis to include Dreyband et al's method for implementing a named access procedure based upon the schema analysis. The combination of Marcy, Upton, IV, and Dreyband et al would have allowed an application to have used Marcy's system based upon a predefined method of information exchange.

With regards to claim 14, which depends on claim 11, Marcy teaches a method *in which other elements of the data not presently needed are not loaded into memory*

(column 7, lines 10-20: whereas, values at child nodes are not loaded into memory, since the application program directly references a memory location in XML).

With regards to claim 21, which depends on claim 18, Marcy does not explicitly teach method *in which a named access procedure is defined to get a value for the child node or to set a value for the child node*.

However, Dreyband et al teaches a method *in which a named access procedure is defined to get a value for the child node or to set a value for the child node* (Figure 2 and 3: whereas, child elements disclosed in a schema shown in Figure 2 (such as child node 'Name'), have corresponding get and set functions shown in Figure 3 (such as 'getName' and 'setName')).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified the access procedure used by Marcy's application program to use a named access procedure to get and/or set a child node value as taught by Dreyband et al. The combination of Marcy, Upton, IV, and Dreyband et al would have allowed Marcy to have implemented a mapping of a XML schema into Java with "bean style" mutator and accessor methods (paragraph 0029).

With regards to claim 30, Marcy teaches a system for:

- *Means for receiving a schema for the XML data*, as similarly explained in claim 18, and is rejected under the same rationale

- *Means for storing XML data in the database* (column 4, lines 1-29: whereas, XML data is stored in a document. The document is stored in computer memory/data-store/database)
- *Means for* using an access procedure for *providing direct access to the element within the XML data,* means for determining at least one access parameter for the element relative to a second element, similarly explained in claim 18, and is rejected under the same rationale.

However, Marcy does not teach a system comprising means for determining at least one access parameter for the element relative to a second element *in accordance with the schema, means for implementing a named access procedure, … wherein one or more elements in the XML data are designated as not eligible for the named access procedure, and means for creating the named access procedure and associating the named access procedure with the element when the element is appropriate for association*.

Marcy and Upton, IV teach means for determining at least one access parameter for the element relative to a second element *in accordance with the schema, and wherein the at least one access parameter allows the named access procedure to have direct access to the element without progressive traversal of a hierarchy of elements defined in the schema*, as similarly explained in the rejection for claim 18, and is rejected under similar rationale.

However, the combination of Marcy and Upton, IV do not expressly teach *Means for identifying an element within the schema to associate with a named access procedure,*

Means for determining if the element identified is appropriate for association with a named access procedure, … wherein one or more elements in the XML data are designated as not eligible for the named access procedure; and *Means for creating the named access procedure and associating the named access procedure with the element when the element is appropriate for association*

Dreyband et al teaches a system comprising:

- *Means for identifying an element within the schema to associate with a named access procedure*, similarly in claim 1, and is rejected under the same rationale.
- *Means for determining if the element identified is appropriate for association with a named access procedure*, similarly in claim 1, and is rejected under the same rationale.
- *Means for creating the named access procedure and associating the named access procedure with the element when the element is appropriate for association*, similarly in claim 1, and is rejected under the same rationale.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Marcy and Upton, IV's access procedure for directly accessing an instance of XML data to further include the implementation of a named access procedure system as taught by Dreyband et al. The combination of Marcy, Upton, IV, and Dreyband et al would have allowed Marcy's system to have been able to access XML data through a defined named access approach using a schema as a standard for association.

However, the combination of Marcy, Upton, IV, and Dreyband et al do not expressly teach … *wherein one or more elements in the XML data are designated as not eligible for the named access procedure.*

Yet, Bornstein teaches selectively parsing element data such that *one or more elements in the XML data are designated as not eligible for named access* (page 8: whereas one or more XML elements are designated as not eligible/not-interesting for parsing, and are skipped over).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Marcy's XML access method, such that particular XML elements are not parsed, as taught by Bornstein. The combination would have allowed Marcy to have enhanced the performance of an XML parser by skipping over uninteresting elements (Bornstein, page 8).

With regards to claim 31 for a computer program product comprising a computer usable medium having executable code, is similar to a system performing a similar method to claim 30, and is rejected under the same rationale.

With regards to claim 32, for a system performing a method similar to claim 11, and is rejected under the same rationale.

With regards to claim 33, for a computer program product comprising a computer usable medium having executable code, is similar to a system performing a method of claim 11, and is rejected under the same rationale.

With regards to claim 37, which depends on claim 30, for a system performing a method similar to the method performed by the method of claim 1, is rejected under the same rationale.

With regards to claim 38, which depends on claim 30, for a system performing a method similar to the method performed by the method of claim 3, is rejected under the same rationale.

With regards to claim 40, which depends on claim 30, for a system performing a method similar to the method performed by the method of claim 8, is rejected under the same rationale.

With regards to claim 42, which depends on claim 31, for a computer program product performing a method similar to the method performed by the method of claim 2, is rejected under the same rationale.

With regards to claim 43, which depends on claim 31, for a computer program product performing a method similar to the method performed by the method of claim 3, is rejected under the same rationale.

With regards to claim 45, which depends on claim 31, for a computer program product performing a method similar to the method performed by the method of claim 8, is rejected under the same rationale.

With regards to claim 56, which depends on claim 32, for a system performing a method similar to the method of claim 14, is rejected under the same rationale.

With regards to claim 60, which depends on claim 33, for a computer program product performing a method that is similar to the method of claim 14, is rejected under the same rationale.

6. Claims 15-17, 57, 58, 61, and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marcy (US Patent: 6,662,342 B1, published: Dec. 9, 2003, filed: Dec. 13, 1999), in view of Upton, IV (US Patent: 6,742,054 B1, issued: May 25, 2004, filed: Apr. 7, 2000), in view of Dreyband et al (US Patent Application: US 2001/0029604 A1, published: Oct. 11, 2001, filed: Apr. 27, 2001), in view of Bornstein ("Pull Parsing in C# and Java", Published: May 22, 2002, pages 1-9), and further in view of Wan (US Patent: 2003/0233618 A1, published: Dec. 18, 2003, filed: Jun. 16, 2003, Foreign priority: Jun. 17, 2002).

With regards to claim 15, which depends on claim 11, Marcy does not teach a method in which *the element is at a known offset from a parent location*.

However, Wan teaches *the element is at a known offset from a parent location* (Table B and D: whereas, Table B represents an XML instance (which includes child nodes), while Table D shows a method for accessing a memory location of the child nodes using offsets based off of the memory location of a parent node).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Marcy's application for accessing node data to further include the method for accessing child nodes via offsets based off of a location of the corresponding parent nodes as taught by Wan. The combination of Marcy, Upton, IV, Dreyband et al and Wan would have allowed Marcy's system to have been able to have reduced iterative traversal of an XML instance.

With regards to claim 16, which depends on claim 15, Marcy teaches a method *in which the known offset is managed independently of the XML data* (column 6, lies 60-65, Figure 3: whereas, an application program (reference number 6), receives offset information from the XML parser, and thus, is managed independently of the data).

With regards to claim 17, which depends on claim 11, Marcy does not teach a method *in which a memory layout associated with the XML data is maintained as a flat layout.*

However, Wan teaches a method *in which a memory layout associated with the XML data is maintained as a flat layout* (Table B and D: whereas, Table B represents an XML instance (which includes child nodes), while Table D shows a method for accessing a memory location of the child nodes in a flat layout (index/list)).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Marcy's application for accessing node data to further include the method for accessing the memory location of nodes in a flat layout. The combination of Marcy and Wan would have allowed Marcy's system to have been able to improve the usage of memory.

With regards to claim 57, which depends on claim 32, for a system performing a method similar to the method of claim 15, is rejected under the same rationale.

With regards to claim 58, which depends on claim 32, for a system performing a method similar to the method of claim 17, is rejected under the same rationale.

With regards to claim 61, which depends on claim 33, for a computer program product performing a method that is similar to the method of claim 15, is rejected under the same rationale.

With regards to claim 62, which depends on claim 33, for a computer program product performing a method that is similar to the method of claim 17, is rejected under the same rationale.

7. Claims 25, 26, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marcy (US Patent: 6,662,342 B1, published: Dec. 9, 2003, filed: Dec. 13, 1999), in view of Upton, IV (US Patent: 6,742,054 B1, issued: May 25, 2004, filed: Apr. 7, 2000), further in view of Bornstein ("Pull Parsing in C# and Java", Published: May 22, 2002, pages 1-9), and further in view of Wan (US Patent: 2003/0233618 A1, published: Dec. 18, 2003, filed: Jun. 16, 2003, Foreign priority: Jun. 17, 2002).

With regards to claim 25, which depends on claim 18, Marcy does not teach a method *in which direct access is performed to an offset location for the child node*.

However, Wan teaches a method *in which direct access is performed to an offset location for the child node* (Table B and D: whereas, Table B represents an XML instance (which includes child nodes), while Table D shows a method for accessing a memory location of the child nodes using offsets).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Marcy's application for accessing node data, to further include the method for accessing child nodes via offsets as taught by Wan. The combination of Marcy, Upton, IV, and Wan would have allowed Marcy system to have parsed "schemas of structural documents to determine predefined deterministic

relationships between components of structured documents to be indexed" (paragraph 0009).

With regards to claim 26, which depends on claim 25, Marcy does not teach a method *in which the child node is at a known offset from a location for the parent node*.

However, Wan teaches a method *in which the child node is at a known offset from a location for the parent node* (Table B and D: whereas, Table B represents an XML instance (which includes child nodes), while Table D shows a method for accessing a memory location of the child nodes using offsets based off of the memory location of a parent node).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Marcy's application for accessing node data to further include the method for accessing child nodes via offsets based off of a location of the corresponding parent nodes as taught by Wan. The combination of Marcy, Upton, IV, and Wan would have allowed Marcy's system to have been able to have reduced iterative traversal of an XML instance.

With regards to claim 27, which depends on claim 26, Marcy teaches a method *in which a mapping of the known offset is managed independently of the data* (column 6, lies 60-65, Figure 3: whereas, an application program (reference number 6), receives offset information from the XML parser, and thus, is managed independently of the data).

With regards to claim 28, which depends on claim 25, Marcy does not teach a method *in which memory layout associated with the data is maintained as a flat layout*.

However, Wan teaches a method *in which memory layout associated with the data is maintained as a flat layout* (Table B and D: whereas, Table B represents an XML instance (which includes child nodes), while Table D shows a method for accessing a memory location of the child nodes in a flat layout (index/list)).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Marcy's application for accessing node data to further include the method for accessing the memory location of nodes in a flat layout. The combination of Marcy, Upton, IV, and Wan would have allowed Marcy's system to have been able to improve the usage of memory.

8. Claims 5, 6, 7, 9, 13, 39, 41, 44, 46, 55, and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marcy (US Patent: 6,662,342 B1, published: Dec. 9, 2003, filed: Dec. 13, 1999), in view of Upton, IV (US Patent: 6,742,054 B1, issued: May 25, 2004, filed: Apr. 7, 2000), and in view of Dreyband et al (US Patent Application: US 2001/0029604 A1, published: Oct. 11, 2001, filed: Apr. 27, 2001) and further in view of JAXB (Sun Microsystems, pages 58, and 74, published: January 8, 2003).

With regards to claim 5, which depends on claim 1, Marcy does not explicitly teach a method *in which direct mapping is performed to an intended datatype for the element.*

However, JAXB teaches a method *in which direct mapping is performed to an intended datatype for an element* (page 74: whereas, based on the datatype disclosed in a schema, a mapping is performed to an intended Java datatype, as shown in the example, an 'int' datatype in the schema is mapped to an 'int' Java datatype, and a 'float' datatype in the schema is mapped to a 'float' Java datatype).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Marcy's system to include a method of directly mapping datatypes as taught by JAXB. The combination of Marcy and JAXB would have allowed an application that utilized Marcy's system, to have accessed data more efficiently, without the overhead of any additional datatype mapping steps.

With regards to claim 6, which depends on claim 5, Marcy does not explicitly teach a method *in which a conversion to a string datatype is not performed when mapping to the intended datatype.*

However, JAXB teaches a method in *which a conversion to a string datatype is not performed when mapping to the intended datatype* (page 74: whereas, an 'int' mapping is performed).

With regards to claim 7, which depends on claim 5, Marcy does not explicitly teach a method *in which the mapping is a close-matching datatype.*

However, JAXB teaches a method in *which the mapping is a close matching datatype* (page 58: whereas, mapping to a javatype is based on the defined schema

datatype. As shown, an 'unsigned int' datatype in a schema is mapped to the closest matching datatype in Java, which is a 'long').

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Marcy's XML access system to further provide a closest matching datatype that is supported for a particular system/application. The combination of Marcy and JAXB would have allowed Marcy's system operate flexibly on various different platforms using different datatypes.

With regards to claim 9, which depends on claim 1, Marcy does not explicitly teach a method *in which the element is appropriate for association if it corresponds to a native datatype of the system in which the method is performed* (page 58, Table 5-1: whereas, all the schema datatypes disclosed are mapped to all supported Java datatypes. Furthermore, it is inherent that Java datatypes will be supported by the native datatypes available in the system through the use of the platform specific Java Virtual Machine).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Marcy's system to further include a method for associating elements that map to Java datatypes for system independent datatype support. The combination of Marcy and JAXB would have allowed Marcy's system to have operated independent of platform type.

With regards to claim 13, which depends on claim 11, for a method performing a similar method to claim 5, is rejected under the same rationale.

With regards to claim 39, which depends on claim 30, for a system performing a method similar to the method performed by the method of claim 5, is rejected under the same rationale.

With regards to claim 41, which depends on claim 30, for a system performing a method similar to the method performed by the method of claim 9, is rejected under the same rationale.

With regards to claim 44, which depends on claim 31, for a computer program product performing a method similar to the method performed by the method of claim 5, is rejected under the same rationale.

With regards to claim 46, which depends on claim 31, for a computer program product performing a method similar to the method performed by the method of claim 9, is rejected under the same rationale.

With regards to claim 55, which depends on claim 32, for a system performing a method similar to the method of claim 5, is rejected under the same rationale.

With regards to claim 59, which depends on claim 33, for a computer program product performing a method that is similar to the method of claim 5, is rejected under the same rationale.

9. Claims 22, 49, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marcy (US Patent: 6,662,342 B1, published: Dec. 9, 2003, filed: Dec. 13, 1999), in view of Upton, IV (US Patent: 6,742,054 B1, issued: May 25, 2004, filed: Apr. 7, 2000), and further in view of JAXB (Sun Microsystems, pages 58 and 74, published: January 8, 2003).

With regards to claim 22, which depends on claim 18, Marcy teaches a method comprising *identifying a child node* that is to be accessed within the data: An application program is used to access content in an instance of XML data (column 6, lines 23-32: whereas, "the application program can obtain information and content on any part of the document"). Furthermore, it is inherent that the application program identifies a child node to be accessed within the data since the application access any part of the document, which includes child nodes of elements (column 5, lines 57-59). However, Marcy does not explicitly teach a method *in which direct mapping is performed to an intended datatype for the* child node.

JAXB teaches a method *in which direct mapping is performed to an intended datatype for a child node/*element (page 74: whereas, based on the datatype disclosed in a schema, a mapping is performed to an intended Java datatype, as shown in the example, an 'int' datatype in the schema is mapped to an 'int' Java datatype, and a 'float' datatype in the schema is mapped to a 'float' Java datatype).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Marcy's method of accessing child node data to further

include a method of direct mapping to an intended datatype as taught by JAXB. The combination Marcy and JAXB would have allowed Marcy's system to have performed faster child node data retrieval.

With regards to claim 49, which depends on claim 34, for a system performing a method that is similar to the method of claim 22, is rejected under the same rationale.

With regards to claim 53, which depends on claim 35, for a computer program product performing a method that is similar to the method of claim 22, is rejected under the same rationale.

Response to Arguments

10. Applicant's arguments with respect to claims 1-62 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILSON TSUI whose telephone number is (571)272-7596. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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November 03, 2008